



OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/769,699

DATE: 05/02/2002
TIME: 17:22:14

Input Set : A:\61152-A.txt
Output Set: N:\CRF3\05022002\I769699.raw

```

3 <110> APPLICANT: Silverstein, Saul J
4     Lungu, Octavian
5     Gershon, Anne A
6     Annunziato, Paula W
8 <120> TITLE OF INVENTION: VZV ORF29p Protein-Related Compositions and Methods
10 <130> FILE REFERENCE: 0575/61152-A
C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/769,699
C--> 12 <141> CURRENT FILING DATE: 2002-04-22
12 <160> NUMBER OF SEQ ID NOS: 2
14 <170> SOFTWARE: PatentIn version 3.1
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 3610
18 <212> TYPE: DNA
19 <213> ORGANISM: Varicella zoster
21 <220> FEATURE:
22 <221> NAME/KEY: CDS
23 <222> LOCATION: (1)..(3609)
24 <223> OTHER INFORMATION:
27 <400> SEQUENCE: 1
28 atg gaa aat act cag aag act gtg aca gtg ccc acg ggg ccc ctg ggt      48
29 Met Glu Asn Thr Gln Lys Thr Val Thr Val Pro Thr Gly Pro Leu Gly
30 1                               5                               10                               15
32 tac gtt tat gcg tgc cgg gtt gaa gat ttg gat ctg gag gaa att tca      96
33 Tyr Val Tyr Ala Cys Arg Val Glu Asp Leu Asp Leu Glu Glu Ile Ser
34                               20                               25                               30
36 ttt ttg gcc gct cgt agc acg gac tct gat ttg gct tta tta cct ttg      144
37 Phe Leu Ala Ala Arg Ser Thr Asp Ser Asp Leu Ala Leu Leu Pro Leu
38                               35                               40                               45
40 atg cgt aat ttg acc gtg gaa aaa act ttt aca tcc agc ctg gcg gtg      192
41 Met Arg Asn Leu Thr Val Glu Lys Thr Phe Thr Ser Ser Leu Ala Val
42                               50                               55                               60
44 gtt tct gga gca cgc act acg ggt ctt gcc gga gct ggt att acc tta      240
45 Val Ser Gly Ala Arg Thr Thr Gly Leu Ala Gly Ala Gly Ile Thr Leu
46 65                               70                               75                               80
48 aaa ctc act acc agt cat ttc tat cca tct gtc ttt gtc ttt cac gga      288
49 Lys Leu Thr Thr Ser His Phe Tyr Pro Ser Val Phe Val Phe His Gly
50                               85                               90                               95
52 ggc aaa cac gtt tta ccc agc tcc gcg gcc cca aat ctc aca cgc gcg      336
53 Gly Lys His Val Leu Pro Ser Ser Ala Ala Pro Asn Leu Thr Arg Ala
54                               100                              105                              110
56 tgt aac gcg gct cga gaa cgg ttt ggg ttt tca cgc tgc caa ggg cct      384
57 Cys Asn Ala Ala Arg Glu Arg Phe Gly Phe Ser Arg Cys Gln Gly Pro
58                               115                              120                              125

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/769,699

DATE: 05/02/2002

TIME: 17:22:14

Input Set : A:\61152-A.txt

Output Set: N:\CRF3\05022002\I769699.raw

60	cct gtt gac ggt gct gtt gag acg acc ggc gct gag ata tgc acc cgc	432
61	Pro Val Asp Gly Ala Val Glu Thr Thr Gly Ala Glu Ile Cys Thr Arg	
62	130 135 140	
64	ctt gga tta gag cca gaa aat aca ata tta tac ttg gtg gtc acg gca	480
65	Leu Gly Leu Glu Pro Glu Asn Thr Ile Leu Tyr Leu Val Val Thr Ala	
66	145 150 155 160	
68	ttg ttt aag gaa gcc gta ttt atg tgc aac gtg ttt ctg cat tat gga	528
69	Leu Phe Lys Glu Ala Val Phe Met Cys Asn Val Phe Leu His Tyr Gly	
70	165 170 175	
72	gga ctc gat att gtt cat att aac cat ggg gat gtt ata cgt ata ccg	576
73	Gly Leu Asp Ile Val His Ile Asn His Gly Asp Val Ile Arg Ile Pro	
74	180 185 190	
76	tta ttt ccg gta caa ctt ttc atg ccc gat gtt aac cgt ctg gta ccc	624
77	Leu Phe Pro Val Gln Leu Phe Met Pro Asp Val Asn Arg Leu Val Pro	
78	195 200 205	
80	gac cca ttc aac act cat cac agg tct atc gga gag ggt ttt gta tac	672
81	Asp Pro Phe Asn Thr His His Arg Ser Ile Gly Glu Gly Phe Val Tyr	
82	210 215 220	
84	cca aca ccc ttt tat aac acc ggg ttg tgc cat tta ata cat gac tgt	720
85	Pro Thr Pro Phe Tyr Asn Thr Gly Leu Cys His Leu Ile His Asp Cys	
86	225 230 235 240	
88	gtt att gct ccc atg gcc gtt gcc ttg cgc gtc aga aat gta act gcc	768
89	Val Ile Ala Pro Met Ala Val Ala Leu Arg Val Arg Asn Val Thr Ala	
90	245 250 255	
92	gtc gcc cga gga gcg gcc cac ctt gct ttt gat gaa aat cac gag ggg	816
93	Val Ala Arg Gly Ala Ala His Leu Ala Phe Asp Glu Asn His Glu Gly	
94	260 265 270	
96	gca gta ctc ccc cct gac att acg tac acg tat ttt cag tcc tct tca	864
97	Ala Val Leu Pro Pro Asp Ile Thr Tyr Thr Tyr Phe Gln Ser Ser Ser	
98	275 280 285	
100	agt gga acc act acc gcc cgt gga gcg cgt cga aac gat gtc aac tcc	912
101	Ser Gly Thr Thr Thr Ala Arg Gly Ala Arg Arg Asn Asp Val Asn Ser	
102	290 295 300	
104	acg tct aag cct agc cca tcg ggg ggg ttt gaa aga cgg ttg gcg tct	960
105	Thr Ser Lys Pro Ser Pro Ser Gly Gly Phe Glu Arg Arg Leu Ala Ser	
106	305 310 315 320	
108	att atg gcc gct gac aca gcc ttg cac gca gaa gtt ata ttc aac act	1008
109	Ile Met Ala Ala Asp Thr Ala Leu His Ala Glu Val Ile Phe Asn Thr	
110	325 330 335	
112	gga att tac gaa gaa act cca aca gat atc aaa gaa tgg cca atg ttt	1056
113	Gly Ile Tyr Glu Glu Thr Pro Thr Asp Ile Lys Glu Trp Pro Met Phe	
114	340 345 350	
116	ata ggc atg gag ggc act ttg cca agg cta aac gct ctg ggg tca tat	1104
117	Ile Gly Met Glu Gly Thr Leu Pro Arg Leu Asn Ala Leu Gly Ser Tyr	
118	355 360 365	
120	acc gct cgt gtg gcc ggg gtc att ggt gcg atg gtt ttc agc cca aat	1152
121	Thr Ala Arg Val Ala Gly Val Ile Gly Ala Met Val Phe Ser Pro Asn	
122	370 375 380	
124	tct gcg ttg tat cta act gag gtg gag gat agc ggg atg acc gaa gcc	1200

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/769,699

DATE: 05/02/2002

TIME: 17:22:14

Input Set : A:\61152-A.txt

Output Set: N:\CRF3\05022002\I769699.raw

125	Ser	Ala	Leu	Tyr	Leu	Thr	Glu	Val	Glu	Asp	Ser	Gly	Met	Thr	Glu	Ala	
126	385					390					395					400	
128	aag	gat	ggg	gga	ccg	ggt	cca	tca	ttt	aat	cga	ttt	tac	cag	ttt	gcc	1248
129	Lys	Asp	Gly	Gly	Pro	Gly	Pro	Ser	Phe	Asn	Arg	Phe	Tyr	Gln	Phe	Ala	
130					405					410					415		
132	gga	cct	cat	tta	gct	gcg	aat	ccc	caa	aca	gat	cga	gat	ggc	cac	gtt	1296
133	Gly	Pro	His	Leu	Ala	Ala	Asn	Pro	Gln	Thr	Asp	Arg	Asp	Gly	His	Val	
134				420					425					430			
136	cta	tcc	agt	cag	tct	acg	ggt	tca	tca	aac	aca	gag	ttt	agc	gtg	gat	1344
137	Leu	Ser	Ser	Gln	Ser	Thr	Gly	Ser	Ser	Asn	Thr	Glu	Phe	Ser	Val	Asp	
138				435				440						445			
140	tat	ttg	gca	ctc	att	tgt	gga	ttt	gga	gca	ccc	ctg	ttg	gcg	cga	ctg	1392
141	Tyr	Leu	Ala	Leu	Ile	Cys	Gly	Phe	Gly	Ala	Pro	Leu	Leu	Ala	Arg	Leu	
142		450					455					460					
144	ctt	ttt	tat	cta	gaa	cgc	tgt	gac	gct	ggt	gcg	ttt	aca	ggg	ggt	cac	1440
145	Leu	Phe	Tyr	Leu	Glu	Arg	Cys	Asp	Ala	Gly	Ala	Phe	Thr	Gly	Gly	His	
146	465				470					475					480		
148	ggg	gat	gcg	tta	aaa	tat	ggt	acg	ggg	acc	ttt	gac	tct	gaa	att	cca	1488
149	Gly	Asp	Ala	Leu	Lys	Tyr	Val	Thr	Gly	Thr	Phe	Asp	Ser	Glu	Ile	Pro	
150				485					490					495			
152	tgt	agt	tta	tgt	gaa	aaa	cac	acg	cgg	ccg	gta	tgc	gct	cac	aca	aca	1536
153	Cys	Ser	Leu	Cys	Glu	Lys	His	Thr	Arg	Pro	Val	Cys	Ala	His	Thr	Thr	
154				500					505					510			
156	gta	cac	cga	ctt	aga	caa	cgc	atg	ccg	cga	ttt	gga	caa	gcc	acc	cgt	1584
157	Val	His	Arg	Leu	Arg	Gln	Arg	Met	Pro	Arg	Phe	Gly	Gln	Ala	Thr	Arg	
158				515				520						525			
160	caa	cct	att	ggg	gtg	ttt	gga	aca	atg	aac	agc	caa	tat	agc	gac	tgc	1632
161	Gln	Pro	Ile	Gly	Val	Phe	Gly	Thr	Met	Asn	Ser	Gln	Tyr	Ser	Asp	Cys	
162		530					535					540					
164	gat	cct	cta	gga	aac	tat	gct	cca	tat	tta	atc	ctt	cga	aaa	ccc	ggg	1680
165	Asp	Pro	Leu	Gly	Asn	Tyr	Ala	Pro	Tyr	Leu	Ile	Leu	Arg	Lys	Pro	Gly	
166	545				550					555					560		
168	gat	caa	acg	gaa	gca	gca	aag	gca	acc	atg	cag	gac	act	tat	agg	gct	1728
169	Asp	Gln	Thr	Glu	Ala	Ala	Lys	Ala	Thr	Met	Gln	Asp	Thr	Tyr	Arg	Ala	
170				565					570					575			
172	aca	cta	gaa	cgc	ttg	ttt	atc	gat	cta	gaa	caa	gag	cga	cta	ctg	gat	1776
173	Thr	Leu	Glu	Arg	Leu	Phe	Ile	Asp	Leu	Glu	Gln	Glu	Arg	Leu	Leu	Asp	
174				580					585					590			
176	cgc	ggt	gcc	cca	tgt	tct	tcc	gag	gga	cta	tgc	tct	gtc	att	gtg	gat	1824
177	Arg	Gly	Ala	Pro	Cys	Ser	Ser	Glu	Gly	Leu	Ser	Ser	Val	Ile	Val	Asp	
178				595				600						605			
180	cat	cca	acg	ttt	cgt	cgc	ata	tta	gac	aca	ctg	cgt	gcg	cgt	ata	gaa	1872
181	His	Pro	Thr	Phe	Arg	Arg	Ile	Leu	Asp	Thr	Leu	Arg	Ala	Arg	Ile	Glu	
182				610			615					620					
184	cag	aca	aca	aca	caa	ttt	atg	aaa	gtg	ttg	gtt	gag	acc	cgc	gat	tat	1920
185	Gln	Thr	Thr	Thr	Gln	Phe	Met	Lys	Val	Leu	Val	Glu	Thr	Arg	Asp	Tyr	
186	625				630					635					640		
188	aag	atc	cgt	gaa	gga	tta	tcc	gaa	gcc	acc	cat	tca	atg	gcg	tta	acg	1968
189	Lys	Ile	Arg	Glu	Gly	Leu	Ser	Glu	Ala	Thr	His	Ser	Met	Ala	Leu	Thr	

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/769,699

DATE: 05/02/2002

TIME: 17:22:14

Input Set : A:\61152-A.txt

Output Set: N:\CRF3\05022002\I769699.raw

190		645	650	655	2016
192	ttt gat cca tac tca gga gca ttt tgt ccc att acc aat ttt tta gtt				
193	Phe Asp Pro Tyr Ser Gly Ala Phe Cys Pro Ile Thr Asn Phe Leu Val				
194		660	665	670	2064
196	aaa cga aca cac cta gcc gtg gta caa gac tta gca tta agc caa tgt				
197	Lys Arg Thr His Leu Ala Val Val Gln Asp Leu Ala Leu Ser Gln Cys				
198		675	680	685	2112
200	cat tgt gta ttt tac gga cag caa gtt gag ggg cgg aac ttt cgt aac				
201	His Cys Val Phe Tyr Gly Gln Gln Val Glu Gly Arg Asn Phe Arg Asn				
202		690	695	700	2160
204	caa ttc caa cct gtt ttg cgg cgg cgt ttt gtt gac ctg ttt aat ggg				
205	Gln Phe Gln Pro Val Leu Arg Arg Arg Phe Val Asp Leu Phe Asn Gly				
206	705	710	715	720	2208
208	ggg ttt ata tca aca cgc tct ata acc gta aca tta tct gaa ggt cct				
209	Gly Phe Ile Ser Thr Arg Ser Ile Thr Val Thr Leu Ser Glu Gly Pro				
210		725	730	735	2256
212	gta tcc gcc cca aat ccg aca ttg gga caa gac gcg ccc gcg ggg cgt				
213	Val Ser Ala Pro Asn Pro Thr Leu Gly Gln Asp Ala Pro Ala Gly Arg				
214		740	745	750	2304
216	acc ttt gat ggg gat tta gcg cgc gta agc gtg gaa gtt att cgg gat				
217	Thr Phe Asp Gly Asp Leu Ala Arg Val Ser Val Glu Val Ile Arg Asp				
218		755	760	765	2352
220	ata cga gtt aaa aat agg gtc gtt ttt tca ggt aac tgt aca aat ctc				
221	Ile Arg Val Lys Asn Arg Val Val Phe Ser Gly Asn Cys Thr Asn Leu				
222		770	775	780	2400
224	tct gag gca gcc cgg gca agg ctt gta ggc ctt gca agt gcg tac caa				
225	Ser Glu Ala Ala Arg Ala Arg Leu Val Gly Leu Ala Ser Ala Tyr Gln				
226	785	790	795	800	2448
228	cgc caa gaa aaa aga gtg gat atg tta cac ggg gcc cta ggg ttt ttg				
229	Arg Gln Glu Lys Arg Val Asp Met Leu His Gly Ala Leu Gly Phe Leu				
230		805	810	815	2496
232	ctt aaa cag ttt cac ggc ctg tta ttt cct cgg ggt atg cca cca aac				
233	Leu Lys Gln Phe His Gly Leu Leu Phe Pro Arg Gly Met Pro Pro Asn				
234		820	825	830	2544
236	agt aaa tcc ccc aac ccg cag tgg ttt tgg acc ctg tta caa cgc aac				
237	Ser Lys Ser Pro Asn Pro Gln Trp Phe Trp Thr Leu Leu Gln Arg Asn				
238		835	840	845	2592
240	cag atg ccg gca gat aaa ctt aca cac gaa gag att acc act att gca				
241	Gln Met Pro Ala Asp Lys Leu Thr His Glu Glu Ile Thr Thr Ile Ala				
242		850	855	860	2640
244	gct gtt aaa cgg ttt acc gag gaa tat gca gca ata aac ttt att aat				
245	Ala Val Lys Arg Phe Thr Glu Glu Tyr Ala Ala Ile Asn Phe Ile Asn				
246	865	870	875	880	2688
248	cta ccc cca acc tgc ata gga gaa tta gcc cag ttt tat atg gca aat				
249	Leu Pro Pro Thr Cys Ile Gly Glu Leu Ala Gln Phe Tyr Met Ala Asn				
250		885	890	895	2736
252	ctt att ctt aaa tac tgc gat cat tca cag tac ctt ata aat acc tta				
253	Leu Ile Leu Lys Tyr Cys Asp His Ser Gln Tyr Leu Ile Asn Thr Leu				
254		900	905	910	

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/769,699

DATE: 05/02/2002
 TIME: 17:22:14

Input Set : A:\61152-A.txt
 Output Set: N:\CRF3\05022002\I769699.raw

256	act	tct	ata	att	acg	ggt	gcc	agg	cgc	ccg	cgt	gac	cca	tca	tcc	gtt	2784
257	Thr	Ser	Ile	Ile	Thr	Gly	Ala	Arg	Arg	Pro	Arg	Asp	Pro	Ser	Ser	Val	
258								920									
260	ttg	cat	tgg	att	cgt	aaa	gat	gtc	acg	tcc	gcc	gcg	gac	ata	gaa	acc	2832
261	Leu	His	Trp	Ile	Arg	Lys	Asp	Val	Thr	Ser	Ala	Ala	Asp	Ile	Glu	Thr	
262								935									
264	caa	gca	aag	gcg	ctt	ctt	gaa	aaa	acg	gaa	aac	tta	ccg	gaa	tta	tgg	2880
265	Gln	Ala	Lys	Ala	Leu	Leu	Glu	Lys	Thr	Glu	Asn	Leu	Pro	Glu	Leu	Trp	
266								950									
268	act	acg	gct	ttt	act	tca	act	cat	tta	gtc	cgc	gcg	gcc	atg	aat	caa	2928
269	Thr	Thr	Ala	Phe	Thr	Ser	Thr	His	Leu	Val	Arg	Ala	Ala	Met	Asn	Gln	
270								965									
272	cgt	ccc	atg	gtc	gtt	tta	gga	ata	agc	att	agt	aaa	tat	cac	gga	gcg	2976
273	Arg	Pro	Met	Val	Val	Leu	Gly	Ile	Ser	Ile	Ser	Lys	Tyr	His	Gly	Ala	
274								980									
276	gca	gga	aac	aac	cgc	gtc	ttt	cag	gca	ggg	aat	tgg	agc	ggt	tta	aac	3024
277	Ala	Gly	Asn	Asn	Arg	Val	Phe	Gln	Ala	Gly	Asn	Trp	Ser	Gly	Leu	Asn	
278								1000									
280	ggg	ggt	aaa	aat	gta	tgc	ccg	cta	ttt	aca	ttt	gat	cgc	act	cgc		3069
281	Gly	Gly	Lys	Asn	Val	Cys	Pro	Leu	Phe	Thr	Phe	Asp	Arg	Thr	Arg		
282								1010									
284	cgt	ttt	ata	ata	gca	tgt	cct	aga	gga	ggt	ttt	atc	tgc	ccc	gta		3114
285	Arg	Phe	Ile	Ile	Ala	Cys	Pro	Arg	Gly	Gly	Phe	Ile	Cys	Pro	Val		
286								1025									
288	aca	ggt	ccc	tcg	tcg	gga	aat	cga	gaa	acc	acc	cta	tcc	gac	caa		3159
289	Thr	Gly	Pro	Ser	Ser	Gly	Asn	Arg	Glu	Thr	Thr	Leu	Ser	Asp	Gln		
290								1040									
292	gtt	cgc	ggt	ata	att	gtc	agt	ggc	ggg	gcc	atg	gtt	caa	tta	gcc		3204
293	Val	Arg	Gly	Ile	Ile	Val	Ser	Gly	Gly	Ala	Met	Val	Gln	Leu	Ala		
294								1055									
296	ata	tac	gcc	acg	gtt	gtg	cgt	gca	gtg	ggc	gct	cga	gca	caa	cat		3249
297	Ile	Tyr	Ala	Thr	Val	Val	Arg	Ala	Val	Gly	Ala	Arg	Ala	Gln	His		
298								1075									
300	atg	gca	ttt	gac	gac	tgg	tta	agt	ctt	aca	gac	gat	gag	ttt	tta		3294
301	Met	Ala	Phe	Asp	Asp	Trp	Leu	Ser	Leu	Thr	Asp	Asp	Glu	Phe	Leu		
302								1085									
304	gcc	aga	gac	ttg	gag	gag	tta	cac	gac	cag	att	atc	caa	acc	ctg		3339
305	Ala	Arg	Asp	Leu	Glu	Glu	Leu	His	Asp	Gln	Ile	Ile	Gln	Thr	Leu		
306								1100									
308	gaa	acg	ccc	tgg	acc	gta	gaa	ggc	gct	cta	gaa	gca	gta	aag	att		3384
309	Glu	Thr	Pro	Trp	Thr	Val	Glu	Gly	Ala	Leu	Glu	Ala	Val	Lys	Ile		
310								1115									
312	cta	gat	gaa	aaa	acg	aca	gcg	gga	gat	ggg	gaa	acc	ccc	aca	aac		3429
313	Leu	Asp	Glu	Lys	Thr	Thr	Ala	Gly	Asp	Gly	Glu	Thr	Pro	Thr	Asn		
314								1135									
316	cta	gca	ttt	aat	ttt	gat	tct	tgt	gaa	cca	agc	cat	gac	acc	aca		3474
317	Leu	Ala	Phe	Asn	Phe	Asp	Ser	Cys	Glu	Pro	Ser	His	Asp	Thr	Thr		
318								1145									
320	tct	aac	gta	tta	aac	att	tca	ggg	tca	aac	att	tca	ggg	tca	act		3519

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/769,699

DATE: 05/02/2002

TIME: 17:22:15

Input Set : A:\61152-A.txt

Output Set: N:\CRF3\05022002\I769699.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date